Claims:

What is claimed is:

1. A network architecture for supporting switched burst optical data traffic comprising:

a plurality of optically coupled nodes comprising input ports and output ports, wherein, in use, at each optical output port of each node, a wavelength division multiplexed optical signal is provided having a predetermined relative intensity profile such that each optical input port coupled within the network and for receiving a wavelength division multiplexed signal from an output port is for receiving a wavelength division multiplexed signal with an approximately same relative intensity profile, wherein at least a node supports switching of the wavelength division multiplexed signals and wherein at least some of the optically coupled nodes are absent circuitry for performing dynamic gain equalization, the predetermined relative intensity profile providing relative intensities between wavelength channels for which an optical data signal is present.

2. A network architecture according to claim 1 wherein the at least a node supporting switching is a node supporting channel selective switching for routing different optical signals within different wavelength channels from within different received multiplexed signals to a same multiplexed optical signal provided at a same output port thereof.

3. A network architecture according to claim 2 wherein the relative intensity profile provided at an output port is substantially maintained stable over time.

4. A network architecture according to claim 2 wherein the network comprises transmitters and receivers for supporting optical burst traffic.

5. A network architecture according to claim 3 wherein the at least one of the at least a node supporting switching is absent electronic circuitry for regeneration of optical signals propagating therein to support optical-electrical-optical dynamic gain equalization.

6. A network architecture according to claim 3 wherein the relative intensity profile provided at an output port is a relative intensity profile defining relative intensities for a predetermined number of wavelength channels and wherein a signal within said wavelength

7. A network architecture according to claim 5 wherein a wavelength division multiplexed signal absent of one or more signals still has the predetermined relative intensity profile.

8. A network architecture according to claim 1 wherein the relative intensity profile provided at an output port is a relative intensity profile defining relative intensities for a predetermined number of wavelength channels and wherein a signal within said wavelength channel appears with said relative intensity or is absent from the wavelength division multiplexed signal.

9. A network architecture according to claim 4 wherein a wavelength division multiplexed signal absent of one or more signals still has the predetermined relative intensity profile.

10. A network architecture according to claim 1 wherein the at least some of the optically coupled nodes are absent electronic circuitry for regeneration of optical signals propagating therein to support optical-electrical-optical dynamic gain equalization.

11. A network architecture according to claim 1 wherein at least one of the at least a node supporting switching performs only other than active manipulation of the relative intensity profile such that changes in the relative intensity profile of signals received result in changes in the relative intensity profile of signals provided.

12. A network architecture according to claim 1 wherein an output port is optically coupled to an input port of another node forming an optical path therebetween and wherein the attenuation within the optical path is compensated for by a fixed amplification set when the network is installed or during a calibration of the network such that signals do not require monitoring when received.

13. A network architecture according to claim 1 wherein the relative intensity profiles are determined before or during installation and wherein, in use, variation of the relative intensities of individual multiplexed signals within single wavelength channels is other than performed.

14. A network architecture according to claim 13 wherein the network is not self monitoring with respect to relative optical intensity.

15. A network node for supporting burst optical data traffic comprising:

a first node having a plurality of input ports and an output port, the first node for being provided a plurality of input wavelength division multiplexed signals each including channel signals within different wavelength channels having a same predetermined intensity profile, for switching of the channel signals and for providing a first output signal having channel signals from different optical signals of the plurality of input wavelength division multiplexed signals and having a first predetermined output intensity profile, the first node absent a dynamic gain equalizer for actively equalizing wavelength division multiplexed signals provided at the output port thereof or at the input ports thereof.

16. A network node according to claim16 wherein the relative intensity profile provided at the output port is a relative intensity profile defining relative intensities for a predetermined number of wavelength channels and wherein a signal within said wavelength channel appears with said relative intensity or is absent from the wavelength division multiplexed signal.

17. A network node according to claim 16 wherein the same predetermined intensity profile does not vary in time.

18. A network node according to claim 17 wherein the intensity is maintained at a constant level for a plurality of different sequential data bursts.

19. A network node according to claim 17 wherein the intensity is maintained at a constant level until changes to the network infrastructure optically proximate the node are made.

20. A network node according to claim 17 wherein the network node is absent optical monitoring.

21. A network node according to claim 16 wherein the relative intensity profile provided at an input port is a relative intensity profile defining relative intensities for a predetermined number of wavelength channels and wherein a signal within said wavelength channel appears with said relative intensity or is absent from the wavelength division multiplexed signal.

22. A network node according to claim 21 wherein the same predetermined intensity profile does not vary in time.

23. A network node according to claim 22 wherein the network node is absent optical monitoring.

24. A network node according to claim 17 additionally comprising:

at least an optical monitor for monitoring the wavelength profile of optical signals optically proximate the node, each of the at least a monitor having an output port for providing wavelength profile data and,

a network monitoring unit for receiving wavelength profile data and maintaining a database of wavelength profile information.

25. A network node according to claim 24 wherein the network monitoring unit is for carrying out analysis of wavelength profile data in comparison to wavelength profile information stored in the database.

26. An optical component comprising:

a first input port for receiving a plurality of optical signals multiplexed within a same waveguide;

a second input port for receiving data, the data indicative of signal intensities of signals within a multiplexed signal, the signal intensities detected at each of a plurality of input ports of another optical component; and,

an optical amplifier/attenuator for amplifying optical signals within the multiplexed optical signal independently, the amplification performed in dependence upon a signal received at the second input port, the amplification for equalizing signal intensities at the input port of the another optical component, and the amplification performed in an approximately fixed fashion wherein the amplification other than varies dynamically with signal intensity of the received data signals,

wherein the optical component is absent gain equalization means prior to the signal being provided to the optical amplifier.

27. An optical component according to claim 26 comprising a third input port for receiving a plurality of optical signals multiplexed within a same waveguide,

wherein the optical amplifier/attenuator is for amplifying optical signals within the multiplexed optical signal independently, the amplification performed in dependence upon a

signal received at the second input port, the amplification for equalizing signal intensities at each of the input port and the third input port of the another optical component, and the amplification performed in an approximately fixed fashion wherein the amplification other than varies dynamically with signal intensity of the received data signals.

28. An optical component according to claim 26 wherein the relative intensity profile provided at the second input port is a relative intensity profile defining relative intensities for a predetermined number of wavelength channels and wherein a signal within said wavelength channel appears with said relative intensity or is absent from the wavelength division multiplexed signal.

29. An optical component according to claim 28 wherein the relative intensity profile provided at the second input port is a relative intensity profile defining relative intensities for a predetermined number of wavelength channels and wherein a signal within said wavelength channel appears with said relative intensity or is absent from the wavelength division multiplexed signal.

30. An optical component according to claim 28 wherein the relative intensity profile provided at the second input port does not vary with time.

31. An optical component according to claim 26 wherein the optical component is absent electronic circuitry for regeneration of optical signals propagating therein to support optical-electrical-optical dynamic gain equalization

32. A method of equalizing a multiplexed optical signal comprising the steps of:

providing a first optical component and a second other optical component separated by a distance and disposed at different network locations;

providing a wavelength multiplexed optical signal to a first input port of the first optical component;

monitoring the provided optical signal to determine an intensity profile thereof proximate the first input port;

providing a feedback signal indicative of the monitored intensity profile to the second other optical component;

receiving the feedback signal at the second other optical component;

within the second other optical component, setting an approximately fixed amplification for each of different optical signals within said wavelength multiplexed optical signal independently in dependence upon the received feedback signal; and,

providing the amplified multiplexed optical signal from the second other optical component to the first optical component, the fixed amplification for resulting in an approximately fixed relative intensity profile for each amplified multiplexed optical signal.

33. A method of equalizing a multiplexed optical signal according to claim 32 wherein the first optical component comprises two input ports each for receiving a multiplexed optical signal and wherein the provided feedback signal is dependent upon a multiplexed optical signal intensity profile and a predetermined optical intensity profile.

34. A method of equalizing a multiplexed optical signal according to claim 32 wherein the first optical component comprises two input ports each for receiving a multiplexed optical signal and wherein the provided feedback signal is dependent upon each of the two multiplexed optical signal intensity profiles.

35. A method of equalizing a multiplexed optical signal comprising the steps of:

providing a first wavelength multiplexed optical signal to a first input port of a first optical component;

providing a second wavelength multiplexed optical signal to a second input port of the first optical component;

monitoring the first optical signal to determine an intensity profile thereof proximate the first input port;

monitoring the second optical signal to determine an intensity profile thereof proximate the second input port;

providing a first feedback signal indicative of the monitored intensity profile to a second other optical component;

providing a second feedback signal indicative of the monitored intensity profile to a third other optical component;

receiving the first feedback signal at the second other optical component;

receiving the second feedback signal at the third other optical component;

within the second other optical component, amplifying optical signals within said wavelength multiplexed optical signal independently in dependence upon the received first feedback signal;

within the third other optical component, amplifying optical signals within said wavelength multiplexed optical signal independently in dependence upon the received second feedback signal;

providing the amplified multiplexed optical signal from the second other optical component to the first optical component; and

providing the amplified multiplexed optical signal from the third other optical component to the first optical component,

wherein the intensity profiles of the received multiplexed optical signals at the first optical component are within known tolerances of at least a predetermined intensity profile.

36. A method of equalizing a multiplexed optical signal according to claim 35 wherein the intensity profiles are approximately identical intensity profiles for signals within same wavelength channels when present.

37. A method of transmitting optical data comprising:

providing a test signal with a known intensity from a transmitter,

monitoring the intensity of the test signal proximate an amplifier/attenuator,

providing data from the monitor to the amplifier/attenuator,

setting the amplifier/attenuator to a predetermined approximately fixed gain response in dependence upon the data provided from the monitor,

providing a wavelength multiplexed data signal from the transmitter,

amplifying the wavelength multiplexed data signal according to the approximately fixed gain response of the amplifier/attenuator and absent dynamic gain equalization.